Midland

EASTMAN AVENUE PRACTICAL ALTERNTIVE 1 PM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Volume (vph)	521	214	78	83	135	303	76	1606	202	1851	472
Turn Type	pm+pt		Perm	pm+pt		Perm	pm+pt		pm+pt		pm+ov
Protected Phases	7	4		3	8		5	2	1	6	7
Permitted Phases	4		4	8		8	2		6		6
Detector Phases	7	4	4	3	8	8	5	2	1	6	7
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0	5.0
Minimum Split (s)	11.1	22.1	22.1	11.1	22.1	22.1	11.3	22.3	11.3	22.3	11.1
Total Split (s)	15.3	26.3	26.3	11.1	22.1	22.1	11.3	67.4	15.2	71.3	15.3
Total Split (%)	12.8%	21.9%	21.9%	9.3%	18.4%	18.4%	9.4%	56.2%	12.7%	59.4%	12.8%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	4.3	4.3	4.3	4.3	3.6
All-Red Time (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.0	2.0	2.0	2.0	2.5
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?											
Recall Mode	None	Max	Max	None	Max	Max	None	C-Max	None	C-Max	None
Act Effct Green (s)	33.4	22.3	22.3	25.2	18.1	18.1	70.7	63.4	78.5	69.6	84.9
Actuated g/C Ratio	0.28	0.19	0.19	0.21	0.15	0.15	0.59	0.53	0.65	0.58	0.71
v/c Ratio	0.85	0.67	0.23	0.51	0.52	1.05	0.49	0.71	0.97	0.98	0.42
Control Delay	57.3	56.2	10.4	52.1	54.4	101.2	26.0	13.7	69.0	23.1	1.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0
Total Delay	57.3	56.2	10.4	52.1	54.4	101.2	26.0	13.9	69.0	23.1	1.3
LOS	E	E	B	D	D	F	C	B	E	C	A
Approach Delay		52.5			81.2			14.5		22.7	
Approach LOS		D			F			B		C	

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 17 (14%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 120
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.05
Intersection Signal Delay: 29.9 Intersection LOS: C
Intersection Capacity Utilization 91.9% ICU Level of Service F
Analysis Period (min) 15

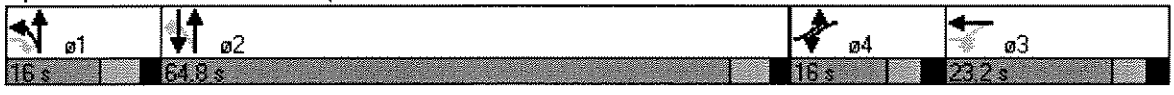
Splits and Phases: 3: Wackerly & Eastman

Lane Group	EBL	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBT	SBR
Lane Configurations										
Volume (vph)	291	338	350	260	514	211	1768	260	2516	242
Turn Type	Prot	custom	pm+pt		Free	pm+pt		Free		Perm
Protected Phases	4		4	3		1	1 2		2	
Permitted Phases		1 3	3		Free	1 2		Free		2
Detector Phases	4	1 3	4	3		1	1 2		2	2
Minimum Initial (s)	5.0		5.0	5.0		5.0			10.0	10.0
Minimum Split (s)	11.0		11.0	11.0		11.3			35.3	35.3
Total Split (s)	16.0	39.2	16.0	23.2	0.0	16.0	80.8	0.0	64.8	64.8
Total Split (%)	13.3%	32.7%	13.3%	19.3%	0.0%	13.3%	67.3%	0.0%	54.0%	54.0%
Yellow Time (s)	3.5		3.5	3.5		4.3			4.3	4.3
All-Red Time (s)	2.5		2.5	2.5		2.0			2.0	2.0
Lead/Lag	Lead		Lead	Lag		Lead			Lag	Lag
Lead-Lag Optimize?										
Recall Mode	None		None	None		None			C-Max	C-Max
Act Effct Green (s)	12.0	35.2	35.2	19.2	120.0	72.8	76.8	120.0	60.8	60.8
Actuated g/C Ratio	0.10	0.29	0.29	0.16	1.00	0.61	0.64	1.00	0.51	0.51
v/c Ratio	0.92	0.43	0.38	0.95	0.35	0.96	0.59	0.18	0.98	0.31
Control Delay	86.0	31.0	35.0	91.1	0.6	78.1	10.6	0.1	39.9	11.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	86.0	31.0	35.0	91.1	0.6	78.1	10.6	0.1	39.9	11.2
LOS	F	C	D	F	A	E	B	A	D	B
Approach Delay	56.4			32.3			15.7		37.3	
Approach LOS	E			C			B		D	

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 4 (3%), Referenced to phase 2:NBSB, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.98
Intersection Signal Delay: 31.1 Intersection LOS: C
Intersection Capacity Utilization 83.5% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 8: Airport & Eastman



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	1087	347	1815	968	347	2037
Turn Type		pt+ov		Free	pm+pt	
Protected Phases	8	8 1	2		1	6
Permitted Phases				Free	6	
Detector Phases	8	8 1	2		1	6
Minimum Initial (s)	4.0		4.0		4.0	4.0
Minimum Split (s)	22.0		22.2		22.2	22.2
Total Split (s)	44.0	69.0	51.0	0.0	25.0	76.0
Total Split (%)	36.7%	57.5%	42.5%	0.0%	20.8%	63.3%
Yellow Time (s)	3.5		4.3		4.3	4.3
All-Red Time (s)	2.5		1.9		1.9	1.9
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Recall Mode	None		C-Max		None	Max
Act Effct Green (s)	40.0	65.0	47.0	120.0	72.0	72.0
Actuated g/C Ratio	0.33	0.54	0.39	1.00	0.60	0.60
v/c Ratio	1.03	0.48	0.99	0.66	1.02	0.73
Control Delay	75.0	19.6	53.8	2.5	78.8	10.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.2
Total Delay	75.0	19.6	53.8	2.5	78.8	11.0
LOS	E	B	D	A	E	B
Approach Delay	61.6		35.9			20.9
Approach LOS	E		D			C

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 39 (33%), Referenced to phase 2:NBT, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.03
Intersection Signal Delay: 36.1 Intersection LOS: D
Intersection Capacity Utilization 98.9% ICU Level of Service F
Analysis Period (min) 15

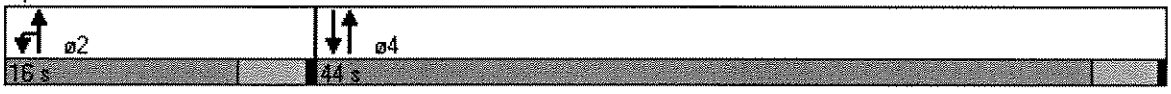
Splits and Phases: 16: Joe Mann & Eastman

Lane Group	NBU	NBT	SBT
Lane Configurations			
Volume (vph)	80	1638	1734
Turn Type	Prot		
Protected Phases	2	2 4	4
Permitted Phases			
Detector Phases	2	2 4	4
Minimum Initial (s)	4.0		4.0
Minimum Split (s)	8.0		20.0
Total Split (s)	16.0	60.0	44.0
Total Split (%)	26.7%	100.0%	73.3%
Yellow Time (s)	3.5		3.5
All-Red Time (s)	0.5		0.5
Lead/Lag			
Lead-Lag Optimize?			
Recall Mode	Max		Max
Act Effct Green (s)	12.0	60.0	40.0
Actuated g/C Ratio	0.20	1.00	0.67
v/c Ratio	0.25	0.50	0.80
Control Delay	24.5	0.5	10.5
Queue Delay	0.0	0.0	0.0
Total Delay	24.5	0.5	10.5
LOS	C	A	B
Approach Delay		1.6	10.5
Approach LOS		A	B

Intersection Summary

Cycle Length: 60
Actuated Cycle Length: 60
Offset: 48 (80%), Referenced to phase 4:NBSB, Start of Green
Natural Cycle: 50
Control Type: Pretimed
Maximum v/c Ratio: 0.80
Intersection Signal Delay: 6.1 Intersection LOS: A
Intersection Capacity Utilization 59.0% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 25: Eastman &

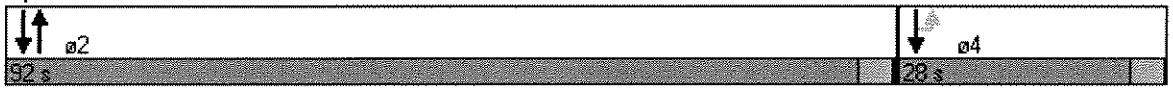


Lane Group	NBT	SBU	SBT
Lane Configurations	↑↑	↱	↑↑
Volume (vph)	1720	11	2001
Turn Type		custom	
Protected Phases	2		2 4
Permitted Phases		4	
Detector Phases	2	4	2 4
Minimum Initial (s)	4.0	4.0	
Minimum Split (s)	20.0	8.0	
Total Split (s)	92.0	28.0	120.0
Total Split (%)	76.7%	23.3%	100.0%
Yellow Time (s)	3.5	3.5	
All-Red Time (s)	0.5	0.5	
Lead/Lag			
Lead-Lag Optimize?			
Recall Mode	None	C-Max	
Act Effct Green (s)	88.0	24.0	120.0
Actuated g/C Ratio	0.73	0.20	1.00
v/c Ratio	0.72	0.19	0.61
Control Delay	11.1	39.2	2.5
Queue Delay	0.0	0.0	0.0
Total Delay	11.1	39.2	2.5
LOS	B	D	A
Approach Delay	11.1		2.7
Approach LOS	B		A

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 95 (79%), Referenced to phase 4:SBTU, Start of Green
Natural Cycle: 40
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.72
Intersection Signal Delay: 6.5 Intersection LOS: A
Intersection Capacity Utilization 58.6% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 29: Eastman &



Lane Group	NBU	NBT	SBT
Lane Configurations			
Volume (vph)	570	1592	1814
Turn Type	Prot		
Protected Phases	2	2 4	4
Permitted Phases			
Detector Phases	2	2 4	4
Minimum Initial (s)	4.0		4.0
Minimum Split (s)	8.0		20.0
Total Split (s)	48.0	120.0	72.0
Total Split (%)	40.0%	100.0%	60.0%
Yellow Time (s)	3.5		3.5
All-Red Time (s)	0.5		0.5
Lead/Lag			
Lead-Lag Optimize?			
Recall Mode	Max		Max
Act Effct Green (s)	44.0	120.0	68.0
Actuated g/C Ratio	0.37	1.00	0.57
v/c Ratio	0.49	0.49	0.98
Control Delay	12.3	2.3	32.7
Queue Delay	0.0	0.0	0.0
Total Delay	12.3	2.3	32.7
LOS	B	A	C
Approach Delay		4.9	32.7
Approach LOS		A	C

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 4:NBSB, Start of Green
Natural Cycle: 60
Control Type: Pretimed
Maximum v/c Ratio: 0.98
Intersection Signal Delay: 17.6 Intersection LOS: B
Intersection Capacity Utilization 73.1% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 34: Eastman &